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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/689,482	10/20/2003	Xie Shao	27615-CNT2	7931
23589	7590	10/20/2004	EXAMINER	
HOVEY WILLIAMS LLP 2405 GRAND BLVD., SUITE 400 KANSAS CITY, MO 64108			LEE, SIN J	
			ART UNIT	PAPER NUMBER
			1752	

DATE MAILED: 10/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/689,482

Applicant(s)

SHAO ET AL.

Examiner

Sin J. Lee

Art Unit

1752

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-45 is/are pending in the application.
- 4a) Of the above claim(s) 1,6-10,28-35,37,38,40,43 and 44 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3-5,11-19,36 and 45 is/are allowed.
- 6) ☒ Claim(s) 20-25,27,39,41 and 42 is/are rejected.
- 7) ☒ Claim(s) 26 is/are objected to.
- 8) ☒ Claim(s) 1 and 3-45 are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 04-07-04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. Applicant's election without traverse of Group II (claims 3-5, 11-27, 36, 39, 41, 42, and 45) in the reply filed on August 3, 2004 is acknowledged. Claims 1, 6-10, 28-35, 37, 38, 40, 43, and 44 have been withdrawn as non-elected inventions.

### ***Specification***

2. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: Present specification does not provide antecedent basis for the limitation of claims 11 and 20 "wherein at least one of  $R_1$  and  $R_2$  of said light attenuating compound is bonded to the polymer binder" and the limitation of claims 36 and 39 "wherein said polymer binder comprises a backbone, and at least one of  $R_1$  and  $R_2$  of said light attenuating compound is bonded to the polymer binder backbone."

### ***Claim Rejections - 35 USC § 102***

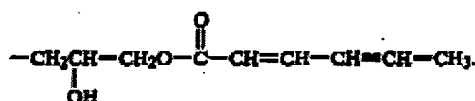
3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 20-25, 27, and 39 are rejected under 35 U.S.C. 102(b) as being anticipated by Melby (4,388,448).

In Example 14, Melby teaches a reaction product of glycidyl methacrylate copolymer with sorbic acid (another name for 2,4-hexadienoic acid), and the polymer product is to have the following pendant group;



This polymer product teaches present polymer binder of claim 20 with the attached light attenuating compound (a) of the Structure A; present R<sub>1</sub>'s would be H atoms and a methyl group (an acyclic alkyl group), and present R<sub>2</sub> would be a H atom, and present EWG would be a carboxylic acid ester group (a non-aromatic electron-withdrawing group), and the present light attenuating compound would be attached to the polymer backbone by the hydroxypropyl linking group (which is an acyclic heteroalkyl group). Present R<sub>1</sub> and R<sub>2</sub> are *indirectly* bonded to the polymer backbone (*present claim language does not require that R<sub>1</sub> and/or R<sub>2</sub> of the light attenuating compound have to be directly bonded to the polymer binder or to the polymer binder backbone*). Melby states (col.8, lines 32-58) that his polymer is useful component in powder coating composition.

Therefore, Melby teaches present composition of claims 20-25, 27, and 39 (it is the Examiner's position that Melby's coating composition would inherently be capable of being used during microlithographic process as presently recited since the prior art teaches present composition of claim 20).

5. Claims 20-25, 27, and 39 are rejected under 35 U.S.C. 102(b) as being anticipated by Maters et al (EP 0 357 110).

In Example 5, Maters teaches the reaction product of glycidyl methacrylate copolymer and sorbic acid (another name for 2,4-hexadienoic acid), and this polymer product teaches present polymer binder of claim 20 with the attached light attenuating compound (a) of the Structure A; present  $R_1$ 's would be H atoms and a methyl group (an acyclic alkyl group), and present  $R_2$  would be a H atom, and present EWG would be a carboxylic acid ester group (a non-aromatic electron-withdrawing group), and the present light attenuating compound would be attached to the polymer backbone by the hydroxypropyl linking group (which is an acyclic heteroalkyl group). Present  $R_1$  and  $R_2$  are *indirectly* bonded to the polymer backbone (*present claim language does not require that  $R_1$  and/or  $R_2$  of the light attenuating compound have to be directly bonded to the polymer binder or to the polymer binder backbone*). Maters states (pg.2, lines 45-47) that his polymer can be used in a two component coating composition which is either water-based or solvent-based.

Therefore, Maters teaches present composition of claims 20-25, 27, and 39 (it is the Examiner's position that Mater's coating composition would inherently be capable of being used during microlithographic process as presently recited since the prior art teaches present composition of claim 20).

6. Claims 41 and 42 are rejected under 35 U.S.C. 102(b) as being anticipated by Beretta et al (4,307,184).

Beretta teaches (col.1, lines 7-14) a color photographic material containing a copolymer having aminoallylidenemalononitrile unit ( $>\text{N}-\text{CH}=\text{CH}-\text{CH}=\text{C}(\text{CN})_2$ ) as UV absorber. The aminoallylidenemalononitrile unit teaches present light attenuating

moiety of claim 41 (present EWG would be a cyano group). The cyano group in Beretta's aminoallylidenemalononitrile unit is *indirectly* bonded (through  $>\text{N}-\text{CH}=\text{CH}-\text{CH}=\text{C}'$  moiety) to Beretta's copolymer (present claim language does not require that the EWG has to be directly bonded to the polymer binder). Therefore, Beretta teaches present inventions of claims 41 and 42 (since Beretta teaches present polymer binder of claim 41, it is the Examiner's position that Beretta's photographic material containing his copolymer having aminoallylidenemalononitrile unit would inherently be capable of being used during microlithographic process as presently recited).

***Allowable Subject Matter***

7. Claims 45, 3-5, 11-19, and 36 are allowed. None of the cited prior arts teaches or suggests the present polymer binder of claims 45, 11, or 36.
8. Claim 26 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Neither Melby nor Maters teaches or suggests each of present  $R_1$  and  $R_2$  being selected from the group consisting of cyclic alkyls and acyclic alkyls.
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sin J. Lee whose telephone number is 571-272-1333. The examiner can normally be reached on Monday-Friday from 9:00 am EST to 5:30 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly, can be reached on 571-272-1526. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*S. Lee*

S. Lee  
October 17, 2004

*Sin J. Lee*  
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